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PATENT ABSTRACTS OF JAPAN

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(22)Date of filing : 22.05.2000	(72)Inventor : MORISHITA SHINICHIRO

(54) INFORMATION PROCESSOR

(57)Abstract:
PROBLEM TO BE SOLVED: To solve the problem that an easily set password is likely to be easily estimated and illegally used by a third person, or that a complicatedly set password is likely not to be remembered and unable to start the processor with a conventional password.
SOLUTION: In this information processor, information stored in an external storage medium is read, and whether or not this information is matched with the identification information of this main body is judged, and when their matching is detected, the main body is activated. Thus, it is possible to start this main body in a simple operation while maintaining high security.
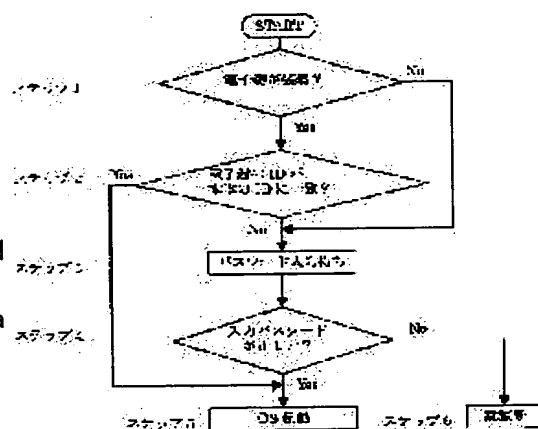
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* NOTICES *

CLAIMS

[Claim(s)]
[Claim 1] The information processor which has an identification-information judging means judge that the identification information of the body memorized by an identification-information storage means memorize the identification information of a body, an external-storage information read-in means read the information memorized by external storage, and the information read from said external-storage information read-in means and said identification-information storage means is in agreement, and a starting means start a body when the judgment result of said identification-information judging means is coincidence.
[Claim 2] An identification information storage means to memorize the identification information of a body, and an external storage information read in means to read the information memorized by external storage, An identification information judging means to judge whether the identification information of the body memorized by the information read from said external storage information read in means and said identification information storage means is in agreement, A password storage means to memorize a password, and a password input means to enter a password, A password judging means to judge whether the password entered from said password input means and the password memorized by said password storage means are in agreement, The information processor which has a starting means to start a body when either the judgment result of said identification information judging means or the judgment result of said password judging means is coincidence.
[Claim 3] The information processor according to claim 2 which has an identification information nullification means to set up so that a starting means may start a body, only when the judgment result of a password judging means is coincidence.
[Claim 4] Claim 1 which has a use functional limit means to restrict a user's use function according to the authority level into which read in and said external storage information read in means read the authority level of the user the external storage information read in means was remembered to be by external storage thru/or an information processor given in three.
[Claim 5] External storage with which claim 1 thru/or the external storage information read in means of an information processor given in four can read information.
[Claim 6] The starting approach of the information processor which consists of the external storage information read in procedure of reading the information memorized by external storage, the identification information judging procedure of judging whether the information read in said external storage information read in procedure being in agreement with the identification information of a body, and the activation procedure that starts a body when the judgment result in said identification information judging procedure is coincidence.
[Claim 7] The external storage information read in procedure of reading the information memorized by external storage, The identification information judging procedure of judging whether the information read in said external storage information read in procedure being in agreement with the identification information of a body, The password judging procedure of judging whether it being in agreement with the password with which the password entered in the password input procedure which enters a password, and said password input procedure is memorized by the body, The starting approach of the information processor which consists of

the activation procedure which starts a body when either the judgment result in said
identification information judging procedure or the judgment result in said password judging
procedure is coincidence.
[Claim 8] Claim 6 which has a use functional setting means to set up the use function of the
user according to the authority level which read a user's authority level memorized by external
storage in the external storage information read in procedure in read in and said external storage
information read in procedure thru/or the starting approach of an information processor given in
seven.

[Translation done.]

* NOTICES *

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the security technique only a just user enables it to start on the occasion of starting of an information processor.
[0002]
[Description of the Prior Art] Only when a right password was entered by preparing a password setting up function at the time of starting so that it cannot start except a just user, he was trying to permit starting in the conventional information processor.
[0003]
[Problem(s) to be Solved by the Invention] However, in order to lessen time and effort of a password input, unless it sets up an easy password or sets up the password itself with the starting limit with the conventional password, in order to be able to presume a password easily, to be used improperly by others and to be unable to perform presumption of a password easily, when the complicated password was set up, there was a problem of it becoming impossible to forget and start a password.
[0004] This invention aims at offering the information processor which can be started by easy actuation, without entering a complicated password while the just user had held high security.
[0005]
[Means for Solving the Problem] In order to solve the above-mentioned technical problem, the information processor of this invention An identification information storage means to memorize the identification information of a body, and an external storage information read in means to read the information memorized by external storage, An identification information judging means to judge whether the identification information of the body memorized by the information read from the external storage information read in means and the identification information storage means is in agreement, It can start by easy actuation, holding high security by having a starting means to start a body, when the judgment result of an identification information judging means is coincidence.
[0006] Moreover, by enabling it to use a password together, even if a user forgets the external storage which memorized the identification information of a body in a location different from a body, ** which starts a body can be made and user-friendliness can be improved.
[0007] Furthermore, a starting means can strengthen security further, as the judgment result of a password judging means does not start an information processor with the external storage lost for the third person when the external storage which memorizes the identification information of a body was lost by enabling it to set up so that a body may be started only when it is coincidence.
[0008]
[Embodiment of the Invention] Drawing 1 - drawing 3 are used for below, and the gestalt of operation of this invention is explained to it.
[0009] (Gestalt 1 of operation) Drawing 1 is the hardware configuration Fig. of the information processor in the gestalt of this operation.
[0010] CPU to which 1 performs control of the whole equipment and various data processing in

drawing 1 (central processing unit), RAM which memorizes temporarily the program whose CPU1 performs 2, and data (random access memory), ROM 3 remembers ID of a program or an equipment proper to be (read only memory), 4 The input unit for data inputs, such as passwords, such as a keyboard and a mouse, The electronic key reader which reads displays, such as a CRT display for 5 to display data and a liquid crystal display, the electronic key which is the external storage with which 6 has memorized ID of an equipment proper, and the information 7 is remembered to be by the electronic key 6, and 8 are nonvolatile memory which memorizes a password.
[0011] Drawing 2 is a flow chart which shows starting processing of the information processor in the gestalt of this operation.
[0012] If it checks and equips with whether the electronic key reader 7 is equipped with the electronic key 6 at step 1 and step 2 is not equipped, it moves to step 3.
[0013] If it confirms whether it is in agreement with ID of the equipment proper ID which the electronic key reader 7 read in the electronic key 6 is remembered to be by ROM3 at step 2, and is in agreement, and it moves to step 5, OS is started and it is not in agreement, it will move to step 3.
[0014] At step 3, the message or icon which stimulates a password input is displayed on a display 5, and it waits for the password input from an input unit 4.
[0015] If it confirms whether it is in agreement with the password with which the password entered at step 3 is memorized by the memory 8 of a non-volatile at step 4, and is in agreement, and it moves to step 5, OS is started and it is not in agreement, it will move to step 6 and a body will be turned off.
[0016] In addition, although the gestalt 1 of operation explained the starting limit by ID of the equipment proper memorized by the electronic key 6, it may be made use functional limits (for example, file deletion not carrying out, when the authority level memorized by the electronic key 6 is 1) of a user carrying out based on the use functional managed table which memorizes authority level in the electronic lock 6, and was further shown in drawing 3 .
[0017]
[Effect of the Invention] As explained in full detail above, according to this invention, high security is securable only by a user not entering a complicated password but ** equipping a body with external storage by attesting a just user using the external storage which memorized the identification information of a body.
[0018] Moreover, when the external storage which memorized the identification information of a body is lost, as an information processor is not started with the external storage lost for the third person, security can be further strengthened with the ability to be made not to perform authentication by the external storage.

[Translation done.]

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TECHNICAL FIELD

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, in order to lessen time and effort of a password input, unless it sets up an easy password or sets up the password itself with the starting limit with the conventional password, in order to be able to presume a password easily, to be used improperly by others and to be unable to perform presumption of a password easily, when the complicated password was set up, there was a problem of it becoming impossible to forget and start a password.
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[0016] In addition, although the gestalt 1 of operation explained the starting limit by ID of the equipment proper memorized by the electronic key 6, it may be made use functional limits (for example, file deletion not carrying out, when the authority level memorized by the electronic key 6 is 1) of a user carrying out based on the use functional managed table which memorizes authority level in the electronic lock 6, and was further shown in drawing 3 .

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The hardware configuration Fig. of the information processor concerning the gestalt
1 of operation
[Drawing 2] The flow chart of the starting processing in the gestalt 1 of operation
[Drawing 3] Drawing showing the use functional managed table in the gestalt 1 of operation
[Description of Notations]
1 CPU
2 RAM
3 ROM
4 Input Unit
5 Display
6 Electronic Key
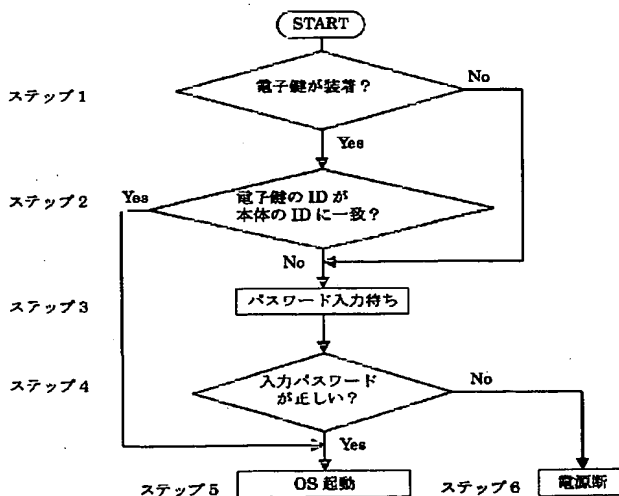7 Electronic Key Reader
8 Nonvolatile Memory

[Translation done.]

(54)【発明の名称】　情報処理装置

(57)【要約】

【課題】　従来のパスワードによる起動制限では、簡単なパスワードを設定すると容易にパスワードが推定できて他人に不正使用されたり、また、複雑なパスワードを設定するとパスワードを忘れてしまって起動できなくなるといった問題があった。

【解決手段】　本発明の情報処理装置は、外部記憶媒体に記憶された情報を読込みこんで本体の識別情報と一致するか否かを判定し、判定結果が一致した場合に本体を起動することで高いセキュリティを保持したまま簡単な操作で起動できるようにした。

【特許請求の範囲】
【請求項1】本体の識別情報を記憶する識別情報記憶手段と、外部記憶媒体に記憶された情報を読込む外部記憶媒体情報読込み手段と、前記外部記憶媒体情報読込み手段から読込まれた情報と前記識別情報記憶手段に記憶された本体の識別情報が一致するか否かを判定する識別情報判定手段と、前記識別情報判定手段の判定結果が一致の場合に本体を起動する起動手段を有する情報処理装置。

【請求項2】本体の識別情報を記憶する識別情報記憶手段と、外部記憶媒体に記憶された情報を読込む外部記憶媒体情報読込み手段と、前記外部記憶媒体情報読込み手段から読込まれた情報と前記識別情報記憶手段に記憶された本体の識別情報が一致するか否かを判定する識別情報判定手段と、パスワードを記憶するパスワード記憶手段と、パスワードを入力するパスワード入力手段と、前記パスワード入力手段から入力されたパスワードと前記パスワード記憶手段に記憶されたパスワードが一致するか否かを判定するパスワード判定手段と、前記識別情報判定手段の判定結果もしくは前記パスワード判定手段の判定結果のいずれかが一致の場合に本体を起動する起動手段を有する情報処理装置。

【請求項3】起動手段がパスワード判定手段の判定結果が一致の場合にのみ本体を起動するように設定する識別情報無効化手段を有する請求項2記載の情報処理装置。

【請求項4】外部記憶媒体情報読込み手段が外部記憶媒体に記憶された使用者の権限レベルを読込み、前記外部記憶媒体情報読込み手段が読込んだ権限レベルに応じて使用者の利用機能を制限する利用機能制限手段を有する請求項1ないし3記載の情報処理装置。

【請求項5】請求項1ないし4記載の情報処理装置の外部記憶媒体情報読込み手段が情報を読込むことができる外部記憶媒体。

【請求項6】外部記憶媒体に記憶された情報を読込む外部記憶媒体情報読込み手順と、前記外部記憶媒体情報読込み手順で読込んだ情報が本体の識別情報と一致するか否かを判定する識別情報判定手順と、前記識別情報判定手順での判定結果が一致の場合に本体を起動する起動手順から成る情報処理装置の起動方法。

【請求項7】外部記憶媒体に記憶された情報を読込む外部記憶媒体情報読込み手順と、前記外部記憶媒体情報読込み手順で読込んだ情報が本体の識別情報と一致するか否かを判定する識別情報判定手順と、パスワードを入力するパスワード入力手順と、前記パスワード入力手順で入力されたパスワードが本体に記憶されているパスワードと一致するか否かを判定するパスワード判定手順と、前記識別情報判定手順での判定結果もしくは前記パスワード判定手順での判定結果のいずれかが一致の場合に本体を起動する起動手順から成る情報処理装置の起動方法。

【請求項8】外部記憶媒体情報読込み手順で外部記憶媒体に記憶された使用者の権限レベルを読込み、前記外部記憶媒体情報読込み手順で読込んだ権限レベルに応じた使用者の利用機能を設定する利用機能設定手段を有する請求項6ないし7記載の情報処理装置の起動方法。

【発明の詳細な説明】
【0001】
【発明の属する技術分野】本発明は、情報処理装置の起動に際し、正当な使用者のみが起動できるようにするセキュリティ技術に関するものである。

【0002】
【従来の技術】従来の情報処理装置においては、正当な使用者以外が起動できないようにパスワード設定機能を設けることで、起動時に正しいパスワードが入力された場合にのみ起動を許可するようにしていた。

【0003】
【発明が解決しようとする課題】しかしながら、従来のパスワードによる起動制限では、パスワード入力の手間を少なくするために簡単なパスワードを設定したりパスワード自体を設定しなかったりすると容易にパスワードが推定できて他人に不正使用されたり、また、パスワードの推定が容易にできないようにするために複雑なパスワードを設定するとパスワードを忘れてしまって起動できなくなるといった問題があった。

【0004】本発明は、正当な使用者が高いセキュリティを保持したまま複雑なパスワードを入力せずに簡単な操作で起動できる情報処理装置を提供することを目的とする。

【0005】
【課題を解決するための手段】上記課題を解決するために、本発明の情報処理装置は、本体の識別情報を記憶する識別情報記憶手段と、外部記憶媒体に記憶された情報を読込む外部記憶媒体情報読込み手段と、外部記憶媒体情報読込み手段から読込まれた情報と識別情報記憶手段に記憶された本体の識別情報が一致するか否かを判定する識別情報判定手段と、識別情報判定手段の判定結果が一致の場合に本体を起動する起動手段を有することで、高いセキュリティを保持したまま簡単な操作で起動できる。

【0006】また、パスワードを併用できるようにすることで、使用者が本体の識別情報を記憶した外部記憶媒体を本体と別の場所に置き忘れたとしても本体を起動することができ使い勝手を向上することができる。

【0007】さらに、起動手段がパスワード判定手段の判定結果が一致の場合にのみ本体を起動するように設定できるようにすることで、本体の識別情報を記憶する外部記憶媒体を紛失した場合に、第三者に紛失した外部記憶媒体で情報処理装置を起動させないようにしてセキュリティをさらに強化することができる。

【0008】

【発明の実施の形態】以下に、図1～図3を用いて本発明の実施の形態について説明する。

【0009】（実施の形態1）図1は、本実施の形態における情報処理装置のハードウェア構成図である。

【0010】図1において、1は装置全体の制御および各種データ処理を行うCPU（中央処理装置）、2はCPU1が実行するプログラムやデータを一時的に記憶するRAM（ランダム・アクセス・メモリ）、3はプログラムや装置固有のIDを記憶するROM（リード・オンリー・メモリ）、4はキーボードやマウス等のパスワード等のデータ入力のための入力装置、5はデータを表示するためのCRTディスプレイや液晶ディスプレイ等の表示装置、6は装置固有のIDを記憶している外部記憶媒体である電子鍵、7は電子鍵6に記憶されている情報を読取る電子鍵読取り装置、8はパスワードを記憶する不揮発性メモリである。

【0011】図2は、本実施の形態における情報処理装置の起動処理を示すフローチャートである。

【0012】ステップ1で、電子鍵6が電子鍵読取り装置7に装着されているか否かをチェックし、装着されていればステップ2に装着されていなければステップ3に移る。

【0013】ステップ2で、電子鍵読取り装置7が電子鍵6から読取ったIDがROM3に記憶されている装置固有のIDに一致しているか否かをチェックし、一致していればステップ5に移ってOSを起動し、一致していなければステップ3に移る。

【0014】ステップ3で、パスワード入力を促すメッセージまたはアイコンを表示装置5に表示して入力装置4からのパスワード入力を待つ。

【0015】ステップ4で、ステップ3で入力されたパスワードが不揮発性のメモリ8に記憶されているパスワードに一致しているか否かをチェックし、一致していればステップ5に移ってOSを起動し、一致していなければステップ6に移って本体の電源を切る。

【0016】なお、実施の形態1では電子鍵6に記憶された装置固有のIDによる起動制限について説明したが、さらに、電子鍵6に権限レベルを記憶しておき図3に示した利用機能管理テーブルに基づいて使用者の利用機能制限（例えば、電子鍵6に記憶された権限レベルが1の場合にはファイル削除をさせないなど）を行なうようにしても良い。

【0017】
【発明の効果】以上詳述したように、本発明によれば、本体の識別情報を記憶した外部記憶媒体を用いて正当使用者を認証することで、使用者が複雑なパスワードを入力せずとも外部記憶媒体を本体に装着するだけで高いセキュリティを確保することができる。

【0018】また、本体の識別情報を記憶した外部記憶媒体を紛失した場合に、その外部記憶媒体による認証をできないようにすることで、第三者に紛失した外部記憶媒体で情報処理装置を起動させないようにしてセキュリティをさらに強化することができる。

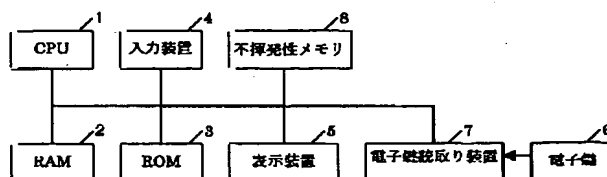【図面の簡単な説明】
【図1】実施の形態1にかかる情報処理装置のハードウェア構成図
【図2】実施の形態1における起動処理のフローチャート
【図3】実施の形態1における利用機能管理テーブルを示す図
【符号の説明】
1　CPU
2　RAM
3　ROM
4　入力装置
5　表示装置
6　電子鍵
7　電子鍵読取り装置
8　不揮発性メモリ

【図1】

【図3】

権限レベル	利用禁止機能
0	なし
1	ファイル削除
2	電子メール

【図2】

Best Available Copy

```
              ( START )
                 │
ステップ1   ┌─────────────┐   No
           <  電子鍵が装着？  >────┐
            └─────────────┘      │
                 │ Yes            │
ステップ2   ┌──────────────┐ Yes  │
      Yes ─<  電子鍵のID が    >   │
            │  本体の ID に一致？ │   │
            └──────────────┘      │
                 │ No  ←──────────┘
ステップ3   ┌──────────────┐
           │ パスワード入力待ち │
            └──────────────┘
                 │
ステップ4   ┌──────────────┐   No
           <  入力パスワード   >────┐
            │   が正しい？      │      │
            └──────────────┘      │
                 │ Yes            │
ステップ5  ┌────────┐  ステップ6 ┌──────┐
          │ OS 起動 │           │ 電源断 │
           └────────┘           └──────┘
```